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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/728,095	KVISGAARD ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *1-10,40 and 41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 08/809,492.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/05/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because its length exceeds the 150-word limit. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

On page 9, paragraph 0042, line 2, "pre sent" should be ---present---.

On page 12, paragraph 0055, line 3, "leads to he" should be –leads to the---.

Appropriate correction is required.

Claim Objections

5. Claims 11-16, 19, 30, 31, 37, and 38 are objected to because of the following informalities:

In claim 11, line 2, to avoid problems of antecedent basis, "each completed batch" should be ---each of a plurality of completed batches---.

In claim 12, line 3, to avoid problems of antecedent basis, "each incomplete batch" should be ---each of a plurality of incomplete batches---.

In claim 12, line 3, to avoid problems of antecedent basis, "the completion" should be ---a completion---.

In claim 12, line 6, to avoid problems of antecedent basis, "the sum" should be ---a sum---.

In claim 12, line 7, to avoid problems of antecedent basis, "the weight" should be ---a weight---.

In claim 12, line 9, to avoid problems of antecedent basis, "each batch" should be ---each incomplete batch---.

In claim 13, line 4, to avoid problems of antecedent basis, "the current sum" should be ---a current sum---.

In claim 14, line 1, "claim 12, said" should be ---claim 12, wherein said---.

In claim 14, line 4, to avoid problems of antecedent basis, "and the current sum weight of the respective batch" should be ---and a current sum weight of the respective incomplete batch---.

In claim 14, line 5, to avoid problems of antecedent basis, "the various" should be ---various---.

In claim 15, lines 3-4, to avoid problems of antecedent basis, "the probabilities of completing" should be ---the completion probabilities of completing---.

In claim 16, line 3, to avoid problems of antecedent basis, "the weight distribution" should be ---weight distribution---.

In claim 19, line 2, to avoid problems of antecedent basis, "articles" should be ---article---.

In claim 30, line 1, to avoid problems of antecedent basis, "different kinds" should be ---different types---.

In claim 31, line 1, to avoid problems of antecedent basis, "different kinds" should be ---different types---.

In claim 37, line 3, to avoid problems of antecedent basis, "decision based" should be ---effecting is based---.

In claim 38, line 2, to avoid problems of antecedent basis, "each completed batch" should be ---each of a plurality of completed batches---.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement because it recites, "modifying the established historical frequency distribution to take into account article weight distribution variations only when a statistically significant number of articles exhibit such weight distribution variations." The specification, however, does not contain a corresponding description of such a limitation but rather indicates, on page 14, paragraph 0060, "The signal processing in that part of the system should be in real time, while the units 28, 30 and 34 will only need updating from time to time, as the basic histogram may change, e.g. after the weighing of each 50 new parts." This section of the specification does not

support "modifying the established historical frequency distribution to take into account article weight distribution variations only when a statistically significant number of articles exhibit such weight distribution variations" but instead suggests that the distribution is modified at set intervals. For this reason, the specification does not enable one having ordinary skill in the art to make/use the invention of claim 17.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 11-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Claim 11 recites, "using a computer to keep track of the articles according to the weight of each article and to calculate a preference for each article by statistical probability calculations based upon said historical frequency distribution to control allocation of the articles to make up the batches in accordance with said historical frequency distribution of article weights". Claim 11, therefore, provides the calculation of a "preference" but controls allocation "in accordance with said historical frequency distribution". There is no apparent use/relationship between the step of calculating "a preference" and the

subsequent processing/control steps, thereby resulting in a gap between the steps.

Claim 38 is similarly rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps for the recitation of "a computer to keep track of the articles according to the weight of each article and to calculate a preference for each article by statistical probability calculations based upon said historical frequency distribution to control allocation of the articles to make up the batches in accordance with said historical frequency distribution of article weights".

Claim 12 is considered to be vague and indefinite because it recites "said method further comprising effecting allocation of an article to a respective batch in dependence upon a comparison of the factors calculated for each batch." It is unclear to one having ordinary skill in the art, however, how claim 12 further limits parent claim 11, specifically by adding a step of "allocation of an article to a respective batch in dependence upon a comparison of the factors calculated for each batch" when parent claim 11 already includes a step of "using a computer...to control allocation of the articles to make up the batches in accordance with said historical frequency distribution of article weights" (i.e. how can the articles be allocated twice?).

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, because it recites "wherein said calculating step comprises the further steps of: deriving said completion probability from the predetermined weight range and from the

current sum weight of articles in the respective incomplete batch; and determining how said probability would change if the article to be allocated were to be allocated to that batch". Parent claim 12, however, describes the calculating step as "calculating a factor for each incomplete batch which is related to the completion probability that, by allocation of an article to said batch, the batch can be completed by allocation of at least one succeeding article to said batch, said factor being based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the article to be allocated". Therefore it is specifically unclear how "determining how said probability would change if the article to be allocated were allocated to that batch", of claim 13, is used in "calculating a factor...based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the articles to be allocated", of claim 12.

Claim 13 is further considered to be vague and indefinite because it refers to "said probability" while it is unclear to one having ordinary skill in the art as to whether "said probability" refers to the previously presented "statistical probability" or "completion probability".

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, because it recites "said calculating step comprises the further steps of: deriving a difference between the predetermined weight range for the completed batch and the current sum weight of the respective batch, deriving from said historical frequency distribution the various combinations of article weights

which would sum to said difference, and deriving the corresponding probability for such combinations from the historical frequency distribution". Parent claim 12, however, describes the calculating step as "calculating a factor for each incomplete batch which is related to the completion probability that, by allocation of an article to said batch, the batch can be completed by allocation of at least one succeeding article to said batch, said factor being based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the article to be allocated". Therefore it is specifically unclear how deriving a corresponding probability for combinations of article weights which would sum to a difference between a predetermined weight range for the completed batch and the current sum weight of the respective batch, of claim 14, is used in further limiting the step of "calculating a factor...based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the articles to be allocated", of claim 12.

Claim 14 is further considered to be vague and indefinite because it refers to "said corresponding probabilities" while it is unclear to one having ordinary skill in the art as to whether "said corresponding probabilities" refers to the previously presented "statistical probability" or "completion probability".

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, because it recites "said calculating step comprises the further steps of: establishing in a computer database functions indicating the probabilities of completing an incomplete batch by at least one succeeding article having a weight in

accordance with the historical frequency distribution, and accessing said database, when an allocation decision is to be made, to derive probability values relating to weight required for completing an incomplete batch if the article that is to be allocated were allocated to that batch". Parent claim 12, however, describes the calculating step as "calculating a factor for each incomplete batch which is related to the completion probability that, by allocation of an article to said batch, the batch can be completed by allocation of at least one succeeding article to said batch, said factor being based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the article to be allocated". Therefore it is specifically unclear how "accessing said database...to derive probability values relating to weight required for completing an incomplete batch if the article that is to allocated were allocated to that batch", of claim 15, is used in further limiting the step of "calculating a factor...based upon said historical frequency distribution, upon the sum weight of articles in the incomplete batch and upon the weight of the articles to be allocated", of claim 12.

Claims 20, 22, and 24 are considered to be vague and indefinite because the make reference to "the [said] probability factor". Parent claim 12, however, only requires "calculating a factor for each incomplete batch which is related to the completion probability". This limitation of claim 12, does not require or support the determination of a factor that is a probability, but only that the factor is related to a completion probability. Therefore, it is unclear to

one having ordinary skill in the art whether the recitation of "the [said] probability factor" in claims 20, 22, and 24 is referring to the previously calculated factor based on a completion probability or is attempting to further limit the factor to define the factor as a probability itself. Claim 35 is similarly rejected under 35 U.S.C. 112, second paragraph, for its recitation of "the calculated probability factors".

Claim 24 is also considered to be vague and indefinite because it includes the confusing limitation of "wherein said probability factor is given a greater weight in allocation of articles for completion of batches than prior thereto".

Claim 32 is considered to be vague and indefinite because it recites, "wherein the different types of articles are allocated to the different batches with mutually different delivery sequences." With "mutually" being generally defined as "having the same relationship each to the other", it is unclear to one having ordinary skill in the art what it means to have delivery sequences that are "mutually different".

Claims 16-19, 21, 23, 25-31, 33, 34, 36, 37, and 39 are rejected under 35 U.S.C. 112, second paragraph, because the incorporate the lack of clarity present in their respective parent claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 11, 16, 18, 25-28, 34, 38, and 39, as may best be understood, are rejected under 35 U.S.C. 102(b) as being anticipated by GB Patent Application Publication No. 2 116 732 to Dalgaard.

With respect to claim 11, Dalgaard discloses a method of accumulating articles having different weights into plural batches wherein each complete batch comprises a plurality of articles and has a sum weight within a predetermined weight range (page 2, lines 55-58), said method comprising the steps of establishing a historical frequency distribution of article weights (page 1, lines 61-79) and using a computer to keep track of the articles according to the weight of each article (page 1, lines 36-37) and to calculate a preference for each article by statistical probability calculations based upon said historical frequency distribution (page 1, lines 80-88) to control allocation of the articles to make up the batches in accordance with said historical frequency distribution of article weights (page 1, lines 109-119).

With respect to claim 16, Dalgaard discloses wherein said step of establishing a historical frequency distribution is performed in a manner taking into account variations in the weight distribution of the articles to be batched (page 1, lines 71-79).

With respect to claim 18, Dalgaard discloses wherein said allocation of the articles is performed in additional dependence upon the number of articles to be allocated to the respective batches (page 2, lines 39-45).

With respect to claim 25, Dalgaard discloses the further steps of monitoring batch weights of completed batches and adjusting allocation of articles to batches in dependence on the monitored batch weights so as to insure that average batch weight is at least a predetermined amount (page 1, lines 50-88).

With respect to claim 26, Dalgaard discloses wherein said allocation in accordance with the historical frequency distribution is performed using only a portion of said historical frequency distribution (i.e. inside a particular weight range as needed) (page 1, lines 80-88).

With respect to claim 27, Dalgaard discloses wherein said allocation of articles to batches is performed contemporaneously in accordance with at least two different sets of batching criteria so as to produce batches having different predetermined weight ranges (i.e. at the same time, batched according to weight and batched by station that received an article the latest) (page 1, lines 89-102).

With respect to claim 28, Dalgaard discloses wherein the different sets of batching criteria are prioritized differentially (i.e. weight prioritized by closest to the average weight and station prioritized by time/latest station to receive an article) (page 1, lines 89-102).

With respect to claim 34, Dalgaard discloses wherein the allocating of articles is related so that said predetermined weight range is subject to a predetermined target weight distribution (page 1, lines 80-88 and page 2, lines 52-58).

With respect to claim 38, Dalgaard discloses a batching system for accumulating articles having different weights into plural batches, wherein each completed batch comprises a plurality of articles and has a sum weight within a predetermined weight range (page 2, lines 55-58) said system comprising means for establishing a historical frequency distribution of article weights (page 1, lines 61-79) and a computer to keep track of the articles according to the weight of each article (page 1, lines 36-37) and to calculate a preference for each article by statistical probability calculations based upon said historical frequency distribution (page 1, lines 80-88) to control allocation of the articles to make up the batches in accordance with said historical frequency distribution of article weights (page 1, lines 109-119).

With respect to claim 39, Dalgaard discloses means for serially supplying articles to a weighing station at which the weights of the articles are assessed (page 1, line 35), means for serially moving the articles from the weighing station (page 1, lines 38-43) into a distribution system have a plurality of batching stations and a selector that is operable to move each article into a selected batching station (page 2, lines 11-25), wherein said computer is operable to control operation of the selector for controlling said allocation of articles (page 2, lines 8-10 and 20-21 and Figure 1).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 29, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Dalgaard in view of U.S. Patent No. 5,703,784 to Pearson.

As noted above, the invention of Dalgaard teaches many of the features of the claimed invention and while the invention of Dalgaard does teach sorting a plurality of articles into batches using an arm (page 2, lines 11-25) so that the plural articles in each batch have an approximately uniform size or weight (page 2, lines 39-51), Dalgaard does not specify sorting different kinds of articles contemporaneously.

Pearson teaches machine vision apparatus and method for sorting objects comprising means for allocating different kinds of articles (i.e. stained or not stained) (column 3, lines 45-52) into batches contemporaneously, with each batch comprising only one kind of article (column 4, lines 21-26).

It would have been obvious to one having ordinary skill in the art to modify the invention of Dalgaard to specify sorting different kinds of articles contemporaneously, as taught by Pearson, because, as suggested by Pearson, the combination would have improved the method of Dalgaard by allowing the user to discriminate between two kinds of articles at the same time in order to separate high quality desired products from lower quality

products in an automatic manner to thereby reduce user burden while improving the quality of the sorted product (column 1, lines 9-21 and 57-62).

14. Claims 30-33, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalgaard in view of U.S. Patent No. 4,661,917 to Haze et al.

As noted above, the invention of Dalgaard teaches many of the features of the claimed invention and while the invention of Dalgaard does teach sorting a plurality of articles into batches using an arm (page 2, lines 11-25) so that the plural articles in each batch have an approximately uniform size or weight (page 2, lines 39-51), Dalgaard does not specify sorting different kinds of articles contemporaneously or sequentially.

Haze teaches a mixing combinatorial counting and weighting method and apparatus therefore wherein different kinds of articles are allocated into batches (column 1, lines 14-22) in order to maintain a weight of the batches within a predetermined range (column 1, lines 40-47) wherein the different kinds of articles are allocated into batches sequentially (i.e. one article at a time from each supply unit) (column 3, lines 12-18) as well as contemporaneously (i.e. a plurality of kinds of articles supplied to the overall mixture at a time) (column 3, lines 12-18) with at least two types of articles being allocated to each batch (column 1, lines 14-22) and wherein the different types of articles are allocated to the different batches with mutually

different delivery sequences (i.e. each article is allocated with a different supply unit) (column 3, lines 12-18 and Figure 1).

It would have been obvious to one having ordinary skill in the art to modify the invention of Dalgaard to specify sorting different kinds of articles contemporaneously and sequentially, as taught by Haze, because Haze suggests that there is a strong demand for automation of the mixing and weighing operation when dealing with goods of which there is a larger variety, to raise efficiency and accuracy while reducing costs, (column 1, lines 23-37) and therefore the combination would have aided the art by providing the sorting method of Dalgaard in a product environment using the particular sorting to carry out such mixing.

Response to Arguments

15. Applicant's election with traverse of Group 2 in the reply filed on December 14, 2005, is acknowledged. The traversal, however, is based on subject matter deemed non-compliant with 35 U.S.C. 112 since the independent claims of Group 2 are missing the step of using the calculated preference, as indicated by Applicant as the feature linking Groups 2 and 3. Therefore, the restriction requirement is maintained.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

U.S. Patent No. 4,428,179 to Jordan et al. teaches a chicken weighing apparatus.

U.S. Patent No. 4,313,507 to Hays teaches a weight portioning method and apparatus.

U.S. Patent No. 4,481,061 to Leverett teaches an apparatus and process for sorting articles.

U.S. Patent No. 4,397,364 to Hirano teaches a combination weighting machine.

U.S. Patent No. 4,157,738 to Nishiguchi et al. teaches a method for counting the number of articles using a weighing machine.

U.S. Patent No. 4,733,363 to Yamada et al. teaches a control system for combinatorial weighing or counting apparatus.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey R. West
Examiner – AU 2857

May 30, 2006